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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,075	09/06/2006	Marco Mario Tivelli	2585-0129PUS1	2845

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EXAMINER

SHEVIN, MARK L

ART UNIT	PAPER NUMBER
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1793

NOTIFICATION DATE	DELIVERY MODE
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09/17/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/554,075	Applicant(s) TIVELLI ET AL.	
	Examiner MARK L. SHEVIN	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1-20, filed June 9th, 2009, are currently under examination. Compared to the claims filed as a preliminary amendment on October 24th, 2005 and examined in the previous Office Action mailed December 9th, 2008: claims 1-8 and 11-20 have been amended and claim 9-10 are withdrawn.

Drawings

2. The drawings submitted October 24th, 2005 are accepted.

Status of Previous Rejections

3. All prior rejections under 35 U.S.C. 103(a) remain in effect and their relationships to the claims filed June 9th, 2009 are stated below.

Claim Rejections - 35 USC § 103

4. **Claims 1-4, 7, 8, 11-13, and 17-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kondo** (JP 09-235,617).

Kondo:

Kondo, drawn to a method for manufacturing a high-strength, high toughness seamless steel pipe, discloses (claim 1) a steel composition as shown in the comparative table below:

Element	Kondo	Instant claims	Overlap
C	0.02 – 0.15	0.06 – 0.13	0.06 – 0.13
Mn	0.5 – 2	1.00 – 1.30	1.00 – 1.30

Art Unit: 1793

Si	0.1 – 0.15	0 – 0.35	0.1 – 0.35
P	0 – 0.05	0 – 0.015	0 – 0.015
S	0 – 0.01	0 – 0.003	0 – 0.003
Mo	0 – 1.5	0.1 – 0.2	0.1 – 0.2
Cr	0 – 1.5	0.10 – 0.30	0.10 – 0.30
V	0 – 0.3	0.050 – 0.10	0.050 – 0.10
Nb	0 – 0.08	0.020 – 0.035	0.020 – 0.035
Ni	0 – 2.5	0.30 – 0.45	0.30 – 0.45
Al	0.001 – 0.5	0.015 – 0.040	0.015 – 0.040
Ti	0 – 0.08	0 – 0.020	0 – 0.020
N	0 – 0.01	0 – 0.010	0 – 0.010
Cu	0 – 0.8	0 – 0.2	0 – 0.2
Fe	Balance	Balance	Balance

The seamless steel pipe is produced by hot piercing, followed by hot rolling with a finishing temperature of 800 - 1050 °C, maintaining the rolled tube in a furnace at between 850 - 1100 °C (paras 0058 – 0060), directly quenching the tube at a cooling rate (R) of at least $R \geq 10^{3.1}/t^{1.4}$, (where t is the tube wall thickness in millimeters) and then tempering at a temperature of $500 - 2.3t < T < 720 - 1.1t$ for tube of less than 30 mm thickness and $T < 720 - 1.1t$ for tubes of greater than 30 mm thickness (claim 1)

The heating at between 850 - 1100 °C after rolling is described as an austenitizing treatment as any ferrite that is formed is said to become austenite again during the treatment process (para 0063).

As for the quenching process, Kondo teaches that the hot tube should be quenched by spraying both the inside and outside surfaces of the tube with water (para 0066).

Regarding claims 1 and 2, it would have been obvious to one of ordinary skill in seamless steel pipe-making, at the time of the invention, to form a seamless steel tube of the instantly claimed chemical composition with a reasonable expectation of success in possessing high mechanical resistance, good toughness, and good resistance to cracking as Kondo taught a seamless steel pipe with a composition that substantially overlaps each and every of the claimed composition ranges and is made by a substantially identical production process compared to instant claim 10.

In particular, it would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See In re Boesch, 205 USPQ 215 (CCPA 1980).

From MPEP 2112.01: Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430,

Art Unit: 1793

433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Lastly, with respect to the compositional formulas of claim 1, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, *In re Cooper and Foley* 1943 C.D. 357,553 O.G. 177., 57 USPQ 1 17, *Taklatwalla v. Marburg*, 620 O.G. 685, 1949 C.D. 77, and *In re Pilling*, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those ordinary skilled in the art. *In re Austin, et al.* 149 USPQ 685,688. It would have been obvious to one of ordinary skill in the art to select alloy compositions fulfilling the claimed compositional relationships from the alloy compositional ranges disclosed by Kondo for the reasons cited above.

With respect to the amendment to claim 1 adding "heavy gauge", there being no explicit definition of "heavy gauge" in the instant specification, the tubing of Kondo is considered to read on "heavy gauge" and thus the previous rejections still apply to the amended claim.

Regarding claims 3, 4, 7, 8, 11, 12, 13, 17, 18, 19, and 20, one of ordinary skill would expect the resistance to cracking, corrosion resistance, yield strength, ultimate tensile strength, elongation, toughness, and hardness to stem from the composition and microstructure imparted by the production process and as the rejection of claims 1 and

Art Unit: 1793

2 showed a substantially identical product made by a substantially identical process, one would expect similar mechanical and chemical properties to result.

With respect to the amendments to these claims changing "a seamless steel tube" to "the seamless steel tube", these amendments do not change the scope of the claims and thus the previous rejections still apply to these amended claims.

5. **Claims 5, 6, and 14-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kondo** (JP 09-235,617) as applied to claims 1-4, 7, 8, 11-13, and 17-20 above, in further view of **Howells** (H. Howells ad S.A. Hatton. Challenges for ultra-deep water riser systems, IIR, London, April 1997, 11 pages.)

The disclosure of Kondo was discussed above, however Kondo does not teach the wall thickness of the seamless steel pipes that he produces.

Howells:

Howells, drawn to the impact of ultra-deep water on steel catenary riser systems (SCRs), teaches that the wall thickness of pipe is such a scenario is a result effective variable in the loading put on the floating platform and the presence of buckling or collapse at a given water depth (p. 1 and p. 2, p.6 - figures 1 and 2). As shown in figure 2, the deeper the water, the thicker the pipe walls must be to avoid collapse or buckling.

Regarding claims 5, 6, and 14-16, it would have been obvious to one of ordinary skill in seamless steel pipe-making, at the time of the invention, to form the pipe of Kondo into segments of 30 mm or more and even 40 mm or more as Howells taught the wall thickness of such steel pipes when used as steel catenary risers to be a result

Art Unit: 1793

effective variable effective in the loading on the floating platform tethered to the SCR(s) and the presence of buckling or collapse at a given depth. It would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed ranges through process optimization, since it has been held that there the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See In re Boesch, 205 USPQ 215 (CCPA 1980).

With respect to the amendments to these claims changing "a seamless steel tube" to "the seamless steel tube", these amendments do not change the scope of the claims and thus the previous rejections still apply to these amended claims.

Response to Applicant's Arguments:

6. Applicant's arguments filed June 9th, 2009 have been fully considered but they are not persuasive.

Applicants assert (p. 11, para 4) "that the chemical composition of the current claim set is clearly different that that claimed in Kondo."

In response, these differences, in the face of overlapping ranges of all claimed alloying elements, are insufficient to rebut a prima facie case of obviousness. Applicants would need persuasive evidence of criticality or unexpected results to show that such differences rise to the level of patentable distinction.

Applicants assert (p. 11, para 5 to p. 13, para 4) that the claimed chemical composition has "unobvious or unexpected advantageous properties, such as

Art Unit: 1793

superiority" (citing MPEP 716.02(a)) alleging that the claimed invention has superior properties as discussed in the instant specification and is thus allowable.

In response, any differences between the claimed invention and the prior art may be expected to result in some differences in properties. The issue is whether the properties differ to such an extent that the difference is really unexpected. *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicants remarks are only allegations of unexpected results per MPEP 716.02.

Furthermore, objective evidence must be factually supported by an appropriate affidavit or declaration to be of probative value. The reason for requiring evidence in declaration or affidavit form is to obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 25 and 18 U.S.C. 1001.

Most importantly, evidence of unexpected properties may be in the form of a direct or indirect comparison of the claimed invention with the closest prior art which is commensurate in scope with the claims. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and MPEP § 716.02(d) - § 716.02(e). See *In re Blondel*, 499 F.2d 1311, 1317, 182 USPQ 294, 298 (CCPA 1974) .

In weighing the evidence for and against obviousness (per MPEP 716.02(c)), Kondo's overlapping ranges outweigh Applicant's unsupported allegations of superiority as there is no comparative evidence showing superiority over the asserted prior art, i.e. the "closest prior art" (MPEP 716.02(e)).

Art Unit: 1793

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

-- Claims 1-8 and 11-20 are finally rejected

-- No claims are allowed

The rejections above rely on the references for all the teachings expressed in the texts of the references and/or one of ordinary skill in the metallurgical art would have reasonably understood or implied from the texts of the references. To emphasize certain aspects of the prior art, only specific portions of the texts have been pointed out. Each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combinations of the cited references may be relied on in future rejections in view of amendments.

All recited limitations in the instant claims have been met by the rejections as set forth above. Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121; 37 C.F.R. Part §41.37 (c)(1)(v); MPEP §714.02; and MPEP §2411.01(B).

Art Unit: 1793

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark L. Shevin whose telephone number is (571) 270-3588 and fax number is (571) 270-4588. The examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy M. King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Mark L. Shevin/
Examiner, Art Unit 1793

September 11th, 2009
10-554,075

/George Wyszomierski/
Primary Examiner
Art Unit 1793